DOCUMENT RESUME

ED 199 962 EC 132 452

AUTHOR Rotatori, Anthony F.; And Others
TITLE Validation of a Weight Reduction Treatment Package for the Retarded.
PUB DATE Sep 80
NOTE 16p.; Paper presented at the Annual Meeting of the American Psychological Association (Montreal, Canada, September, 1980).

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Body Weight; Exceptional Child Research; *Intervention; *Mild Mental Retardation; *Moderate Mental Retardation; *Program Effectiveness; *Self Control

ABSTRACT

Five studies are reviewed which indicated the effectiveness on weight loss by mentally retarded persons of a treatment program stressing self control. The intervention included procedures which increased the dieter's self awareness of overeating behavior patterns and body weight, reduced food cues, reduced eating rates, increased activity level and reduced calorie intake. Ss were required to keep a record of the food they ate, their body weight, and a subjective appraisal of their adherence to the program. Studies included mildly and moderately retarded persons and substantiated the behavioral weight reduction approach. The dieters continued to lose weight during a planned maintenance phase, and in three of five studies, beyond that point. (CL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED199962

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

Validation of a Weight Reduction Treatment Package for the Retarded

Anthony F. Rotatori and August Mauser

Northern Illinois University

Robert Fox

Western Illinois University

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Anthony Rotatori

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Anthony F. Rotatori, Ph.D.
Assistant Professor
Dept. of Learning & Development
Northern Illinois University
DeKalb, IL 60115

EC132452

Running head: Weight Treatment for the MR

Validation of a Weight Reduction Treatment Package for the Retarded

Introduction

All obesity programs are designed to help people lose weight. Other treatment goals of these programs have included improved health and enhanced self-esteem (Rotatori & Fox, 1980a). Although many different methods have been used, most treatment programs have been successful in achieving temporary goals. Unfortunately, the issue of maintenance of weight loss over long periods of time has not been adequately addressed in most treatment programs (Leon, 1976). Dieters usually gain back lost weight following the termination of treatment.

One way to resolve this reoccurring problem is to teach dieters self-control skills (Stuart & Davis, 1972). In this paper, a treatment package for the mentally retarded, which incorporates self-control procedures, is described. Additionally, studies are discussed which demonstrate the effectiveness of the package.

Treatment Intervention Rationale

Schachter's (1971) theory of obesity delineated a number of behavioral patterns which consistently differentiated the obese and the nonobese person. This theory indicated that the obese person's eating behavior is to a large extent determined by external stimulus control factors as opposed to internal feedback factors arising from changes in an individual's physiological state (e.g., hunger stimuli). Schachter's empirical observations and findings identified the following behaviors which consistently differentiate the obese from the nonobese: the obese eat at a faster rate than

the nonobese; the obese engage in less physical activity than the nonobese; the obese eat fewer meals than the nonobese; when the obese eat a meal they eat more than is necessary; the obese eat more food when food is present than when it is not in comparison to the nonobese; and the obese eat more good tasting food than bad tasting food when given this opportunity than the nonobese.

The above behavior patterns of the obese not only differentiate the obese from the nonobese, but their behavior patterns set the stage for continued obesity because the obese continue to soncume more calories than is necessary for their daily energy expenditure needs. Thus, the obese according to the above theory, will stay obese unless their behavior patterns are modified. Therefore, a treatment package was developed to promote weight reduction by incorporating intervention methods which would modify the behavior patterns which, according to Schachter, keep obese persons obese (Rotatori, 1978). The treatment package included procedures which (a) increased dieter's self-awareness of overeating behavior patterns and body weight; (b) reduced food cues; (c) reduced eating rates; (d) increased activity level and (e) reduced calorie intake. A schematic representation of the active treatment intervention techniques appear in Table 1.

Insert Table 1 about here

Training Components and Procedures

Homework. Subjects were required to keep a record of the food that they ate, their body weight and a subjective appraisal of their adherence to the techniques trained. Feedback was given to the subjects by the

diet therapist on their completed homework at each training session.

Instructional methods. Three times a week the subjects were instructed in specific techniques of the package. The first instructional procedure involved the diet therapist verbally describing the techniques as well as a rationale for employing the technique. Next relevant examples were discussed. The second instructional procedure involved modeling the techniques for the subjects. Following the modeling demonstration, the subjects practiced the techniques three times in a simulated situation. At the end of the practice, the diet therapist provided individual feedback while remodeling any portion of the technique incorrectly demonstrated by a subject.

Technique mastery. Mastery criteria for successful demonstration of the techniques were established. Table 2 gives examples of the mastery criteria. Mastery criteria had to be reached before a new technique was

---

Insert Table 2 about here

---

introduced to the subject.

External reinforcement. Subjects were rewarded for losing a specified amount of weight and for using the techniques trained. Subjects received reinforcement from both the diet therapist and from parents, guardians, and/or ancillary care personnel.

Self-reinforcement. Subjects were taught to daily rate their performance on the techniques trained. Points were assigned to each rating and total points earned lead to a letter grade. The subjects were trained to exchange the grade for an envelope which listed activity and covert rewards.

Orientation for parents, guardians and ancillary care personnel. Prior to intervention, the diet therapist meet with the subject's parents, guardians and/or ancillary care personnel. The meeting included the following: (1) a description of the treatment package, (2) a discussion of the homework forms to be completed by the subjects, (3) a delineation and demonstration of the techniques to be trained, and (4) a question and answer period.

Communication system. All subjects had a folder which was brought to all training sessions. Homework forms and communication notes between the diet therapist and parents, guardians and/or ancillary care personnel were put into the folders. The folder was the principal means of communication between the diet therapist and significant persons in the subjects' living environment. Weekly, the diet therapist inserted a "Technique Communication Sheet" which described for the living environment personnel the techniques to be mastered and the homework assignments to be carried out be the subjects.

Maintenanace Phase

After all techniques were trained, a five or six week maintenance phase was programmed. Two maintenance sessions are held each week. The sessions included: (1) a video tape presentation which reviewed the techniques trained; and (2) a review of homework assignments. Throughout this phase, external reinforcement conditions remained in effect.

Treatment Results

A summary of treatment results using the weight control package appears in Table 3. The first validation study (Rotatori, Fox & Switzky, 1980)

Insert Table 3 about here

---

was with ten mentally retarded adults who lived in a semi-independent residential facility. The diet leader was the first author. At the end of a seven week treatment phase, the dieters lost an average of 3.6 pounds per dieter. The ten dieters were then randomly assigned to two groups. Group I (fixed) reviewed the techniques and recording forms with the diet leader once every seven days for six weeks. In contrast, group II (varied) reviewed the techniques and recording forms with the diet leader on an unannounced gradually increased schedule (every three to twelve days) for six weeks. All dieters were weighed at the end of the six week phase (maintenance) as well as ten weeks after the last maintenance meeting. There was no significant difference in weight change between the two groups nor did a clinically significant weight change occur for either group at these weigh-ins.

The success of the above study lead to a pilot study (Rotatori, Parrish & Freagon, 1979) with six moderately/mildly retarded obese children. All children resided at home and attended a full day public school program. The diet leader for the training sessions was a school nurse. the nurse was instructed in the training procedures via a manual and audio tapes developed by the first author. Since the school year was coming to an end, only a seven week technique training phase was used. The children achieved a mean weight loss of 3.7 pounds per dieter. The positive results motivated the school staff and parents to restart the treatment program at the beginning of the next school year.

The above two studies demonstrated the effectiveness of the treatment package with adults and children who were high trainable or educable individuals. A demonstration of the effectiveness of the package with six

lower functioning trainable Downs Syndrome adolescents (mean IQ - 42) occurred in a third study (Rotatori, Fox & Switzky, 1979). The diet leader for the training session was the students' teacher. The treatment period for these six adolescent dieters lasted 14 weeks. The maintenance phase lasted five weeks, and a follow-up weighing occurred 26 and 52 weeks after the end of the maintenance phase. During the treatment phase, the dieters had lost an average of 10.37 pounds per individual. By the end of the maintenance phase, the adolescents had lost an additional average of 3.95 pounds, per dieter. Twenty-six and 52 weeks follow-up weigh-ins revealed a maintenance of weight lost. A fourth study (Rotatori & Switzky, 1979) involved the use of video tape instruction for some dieters. The training sessions were lead by the first author. Eighteen moderately retarded high school students who were randomly assigned, six to a group, to two 'behavior therapy' groups and a control group. The dieters in behavior therapy group I proceeded through the treatment package as it was originally designed. These six individuals received instruction three times weekly and reinforcers daily for a fourteen week period of time. At the end of this time period, these six students had lost an average of 11 pounds each, per dieter. After five weeks of the typical maintenance phase, they had lost an additional 1.96 pounds per dieter. At the time of a 16-week follow-up check, these six individuals were found to have lost an additional 2.33 pounds per dieter.

Group II of the two behavior therapy groups proceeded through the treatment phase in the same fourteen weeks. One basic difference existed between the types of treatment provided the two groups. Group I received live instruction during the treatment phase whereas the members of behavior

therapy group II were given videotaped presentations of the instructions that had been originally given to group I. Members of group II had lost an average of 9.45 pounds per dieter at the end of the 14 week treatment phase. At the end of the maintenance phase, these dieters had lost an average of 2.58 pounds per dieter. At the 16 week follow-up weighing, these dieters lost an additional average of 1.63 pounds per dieter. Both behavior therapy groups were found to have experienced statistically greater weight loss than the control group. Positively, no statistically significant difference existed between the two behavior therapy groups in regards to weight loss at any point in the study.

A final study (Rotatori & Fos, 1980b) evaluated the efficacy of the behavioral treatment package as compared to a social-nutrition weight reduction approach with 30 moderately retarded teenagers. All teenagers were enrolled in a full day public school trainable program and lived in the community. A high school vocational teacher served as the diet leader for the behavior therapy group (N=12) and a high school nurse served as the diet leader for the social-nutrition group (N=12). Six students were assigned to a wait-list control group. Training session for the social nutrition group were concerned with the following topics: (a) nutritious foods to eat; (b) low calorie snack substitutes; (c) the advantages of exercising; (d) reasons not to eat when emotionally upset; (e) talking about negative feelings associated with being overweight; (f) being positive about losing weight; and (g) setting weight goals. At the end of the 14 week treatment period, the behavior therapy dieters lost an average of 10.27 pounds per student. Their weight lost continued during the five week maintenance period as the behavior therapy dieters

lost an additional average of 2.29 per student. Sixteen weeks after the end of the maintenance period, the behavior therapy dieters were found to have lost an additional 1.94 pounds per student. The behavior therapy group demonstrated significantly greater weight losses than either the social-nutrition group or the wait-list control group at the end of each phase of the weight program.

Discussion

Rotatori (1978) indicated that successful weight reduction studies with non-retarded dieters had reported weekly weight losses during treatment which ranged from .50 to 1.00 pounds. The studies reported above compare favorably with the latter statement as dieters attained weekly weight losses ranging from .53 to .79 pounds per week during the treatment training period. Positively, the dieters continued to lose weight during a planned maintenance phase. However, the clinical effectiveness of any program has to be assessed at the time of the follow-up check. In three of the five studies reported above the dieters continued to lose weight (see Table 3). Since research studies in the area of obesity have reported the frequent and rapid return of lost weight at the time of a follow-up check (Stuart & Guire, 1978) the latter findings stress the efficacy of this treatment package.

References

Rotatori, A. F. The effects of different reinforcement schedules in the maintenance of weight loss with retarded overweight adults. Dissertation Abstracts International, 1978, 38, 4738-N.

Rotatori, A. F., Fox, R. & Switzky, H. Multi-component behavioral program for achieving weight loss in the adult retarded. Mental Retardation, 1980, 18, 31-33.

Rotatori, A. F., Parrish, P. & Freagon, S. Weight loss in retarded children--A pilot study. Journal of Psychiatric Nursing, 1979, 17, 33-34.

Rotatori, A. F. & Switzky, H. Successful behavioral weight loss with moderately mentally retarded individuals. International Journal of Obesity, 1979, 3, 223-228.

Rotatori, A. F., Fox, R. & Switzky, H. A parent-teacher administered weight reduction program for obese Down's Syndrome adolescents. Journal of Behavior Therapy and Experimental Psychiatry, 1979, 10, 339-341.

Rotatori, A. F. & Fox, R. A systematic approach to weight control with the mentally retarded. Baltimore: University Park Press, 1980b (in press).

Rotatori, A. F. & Fox, R. A comparison of two weight reduction programs for moderately retarded adolescents. Behavior Therapy, 1980b (in press).

Schachter, S. Some extraordinary facts about obese humans and rats. American Psychologist, 1971, 26, 129-144.

Stuart, R. B. & Davis, B. Slim chance in a fat world: Behavioral control of obesity. Champaign: Research Press, 1972.

Stuart, R. B & Guire, R. Some correlates of the maintenance of weight loss through behavior modification. International Journal of Obesity, 1978, 2, 225-235.

Table 1

Schematic Representation of the Active Treatment Intervention Phase

Present behavior patterns	leads to	
eat too fast		obesity
eat food because it's present		consumption of more calories than are necessary for daily energy expenditure needs
engage in less physical activity		
overeat		

Goal Behavior	Intervention Techniques	loss of weight
(1) Increase self-awareness of overeating behavior and body weight	1. (a) Record food eaten (b) Record physical activity (c) Record body weight	
(2) Reduce rate of eating	2. (a) Chew fully and swallow food before next bite (b) Put utensils down before next bite	
(3) Reduce food cues	3. (a) Engage in emotional response routine (b) Eat in one place (c) Use complete place setting	consumption of less calories than are needed for daily energy expenditure needs
(4) Increase activity level	4. (a) Waste energy (b) Incoporate 2 daily	

Table 2 cont'd.

Goal Behavior	Intervention
	energy exercises into one's routine
(5) Eat less food	5. (a) Leave some food on plate
	(b) Take only one helping
	(c) Have low calorie snacks
	(d) Engage in a favorite activity instead of snacking

Table 2

Examples of Technique Mastery Criteria

Technique	Mastery Criteria
1. Have only one helping	During the practice session food is presented and the subject is asked to serve himself-herself some of each of the foods present. The subject will demonstrate mastery if the subject puts one moderate size helping of each food present in his or her plate three times in a row.
2. Emotional response routine	During the practice session, the diet therapist describes a novel scene in which the subject has an urge to over-eat a snack. The subject will demonstrate mastery if the subject states a negative self statement to stop the urge and a positive self statement to reward overcoming the urge for two out of three novel scenes presented.

Table 3

Summary of Validation Treatment Results

Author	N	Group	Treatment Length in Weeks	Treatment Mean Weight Loss/Gain in Pounds per Subject	Maintenance Length in Weeks	Maintenance Mean Weight Loss/Gain in Pounds Per Subject	Follow-up Length in Weeks	Follow-up Mean Weight Loss/Gain In Pounds Per Subject
Rotatori, Fox & Switzky, 1980	10	Behavior Therapy	7	-3.60 lbs.	6	-1.00 lbs. (fixed N=5) +.01 lbs. (varied N=5)	10	+.65 lbs. (fixed N=5) -.20 lbs. (varied N=
	8	Control	7	+1.66 lbs.	6	+.711 lbs.	10	+.52 lbs.
Rotatori, Parrish & Freagon, 1979	6	Behavior Therapy	7	-3.70 lbs.	-	-	-	-
Rotatori, Fox & Switzky, 1979	6	Behavior Therapy	14	-10.37 lbs.	5	-3.95 lbs.	26 52	-.50 lbs. -.30 lbs.
Rotatori & Switzky, 1979	6	Behavior Therapy (live session)	14	-11.00 lbs.	5	-1.96 lbs.	16	-2.33 lbs.
	6	Behavior Therapy (video tape sessions)	14	-9.45 lbs.	5	-2.58 lbs.	16	-1.63 lbs.
	6	Control	14	+4.00 lbs.	5	+1.16 lbs.	16	+3.16 lbs.
Rotatori & Fox	6	Behavior Therapy	14	-10.27 lbs.	5	-2.29 lbs.	16	-1.94 lbs.
	6	Social-Nutrition	14	-.08 lbs.	5	-.60 lbs.	16	+1.83 lbs.
	6	Control	14	+4.42 lbs.	5	+1.25 lb.s	16	+3.00 lbs.